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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,455	02/07/2002	Ikuo Kawamoto	020587	1845

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EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 06/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,455

Applicant(s)

KAWAMOTO ET AL.

Examiner

Tarifur R Chowdhury

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Status of the claims

1. Currently claims 1-25 are pending.

Comment: In the preliminary amendment filed on 10/03/02, applicant mentioned in page 3 that, "Please add new claims 18-24 as follows:". However, claims 1-18 were originally filed. Accordingly, the newly added claims are renumbered as claims 19-25 instead of 18-24

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8, 11-16 and 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kameyama et al., (Kameyama), USPAT 5,999,243 (provided by the applicant) in view of Trapani et al., (Trapani), US 2003/0002154.

6. Kameyama discloses and shows in Fig. 6, a liquid crystal display including a polarizing element wherein the polarizing element comprising a circularly polarized light separator (1) and quarter wave plate (3) (either only the circularly polarized -light separator or the combination of the light-separator and the quarter wave plate being applicant's reflective polarizing plate) for separating incident light into reflected light and transmitted light both of which are composed of polarized light (col. 5, line 59 – col. 6, line 7; col. 12, line 6-56). Kameyama also discloses the use of pressure-sensitive adhesive to laminate multiple layers (col. 13, lines 28-47).

Kameyama differs from the instant invention because he does not explicitly disclose that the pressure-sensitive adhesive layer has diffusive properties.

Trapani discloses polarizers coated with optically functional layers. Trapani also discloses that a diffusion coating such as a diffuse pressure-sensitive adhesive is advantageous since it increase the viewing angle of the liquid crystal display (page 4, paragraph 0052).

Trapani is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use a light-diffusion pressure-sensitive adhesive layer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display of Kameyama by providing a light-diffusion pressure-sensitive adhesive on the reflecting polarizing plate so that the viewing angle of the display is increased, as per the teachings of Trapani.

Further, the method of manufacturing the polarizing element would have been obvious in view of the device.

Accordingly, claims 1, 2, 6, 7, 11-15, 20 and 25 would have been obvious.

As to claims 3, 4, 21 and 22, Kameyama discloses that the circularly polarized light separation plate (1) comprises a cholesteric liquid crystal polymer which has undergone Grandjean orientation (col. 5, lines 59-61).

As to claims 5 and 23, Kameyama also discloses that the cholesteric liquid crystal layer can be a superimposed structure of cholesteric liquid crystal layers different from each other in a helical pitch of Grandjean orientation (col. 7, line 65- col. 8, line 3).

As to claims 8 and 16, Trapani discloses that the light-diffusion pressure-sensitive adhesive layer is made of a polymer containing glass beads (uncolored transparent material).

As to claims 19 and 24, Kameyama discloses that the polarizer of the invention is not limited to circularly-polarized light separator but also linearly-polarized light separator (col. 5, lines 51-55).

7. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kameyama and Trapani as applied to claims 1-8, 11-16 and 19-25 above and further in view of Mikura et al., (Mikura), USPAT 5,880,800.

8. Kameyama in view of Trapani discloses that the pressure-sensitive adhesive is made of a polymer but do not explicitly disclose the polymer is an acrylic polymer having a weight average molecular weight of at least 100,000.

Mikura discloses optical film having pressure sensitive adhesive layers wherein the pressure-sensitive adhesive layers are made of polymers wherein the polymer is an acrylic polymer having a weight average molecular weight of at least 300,000 (col. 1, line 5; col. 5, line 55 – col. 6, line 2). Mikura also discloses that such an optical film is excellent in heat resistance and moisture resistance (col. 1, lines 6-7).

Mikura is evidence that ordinary workers in the art would find a reason, suggestion or motivation to form pressure-sensitive adhesive layers using acrylic polymer having a weight average molecular weight of at least 300,000.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the pressure-sensitive adhesive layer of Kameyama when modified by Trapani such by using an acrylic polymer having a weight average molecular weight of at least 300,000 so that an optical film with excellent heat resistance and moisture resistance is obtained, as per the teachings of Mikura.

Accordingly, claims 9 and 17 would have been obvious.

9. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kameyama in view of Trapani as applied to claims 1-8, 11-16 and 19-25 above and further in view of Goetz et al., (Goetz), USPAT 6,288,172.

10. Kameyama in view of Trapani discloses that the light-diffusion pressure-sensitive adhesive layer is made of a polymer containing uncolored transparent particles but does

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not explicitly disclose that the particles have an average particle diameter ranging from 0.5 μm to 20 μm are selected from inorganic particles and organic particles.

Goetz discloses light diffusing adhesive that is made of organic polymer particles having an average diameter of about 0.5 μm to about 30 μm (overlaps the claimed range) (col. 12, lines 11-15). Goetz also discloses that such a light diffusion adhesive provides excellent light diffusion properties with low back scattering (col. 1, lines 12-14).

Goetz is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use light diffusion adhesive that has particles with an average particle diameter ranging from 0.5 μm to 20 μm are selected from inorganic particles and organic particles.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the light diffusion adhesive of Kameyama when modified by Trapani by using organic particles having an average particle diameter ranging from 0.5 μm to 30 μm so that a light diffusion adhesive with excellent light diffusion properties with low back scattering is obtained, as per the teachings of Goetz.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a) US 2002/0140882, assigned to the same assignee as the instant invention, is related to a liquid crystal display comprising a polarizing layer laminated on an optical compensation film and a retardation film.
- b) USPAT 6,262,842 discloses that diffusing adhesive can be used to laminate reflective polarizing element to the back of the LCD.
- c) USPAT 6,088,079, assigned to the same assignee as the instant invention, discloses cholesteric liquid crystal layer, optical element, lighting device and liquid crystal display.
- d) USPAT 6,339,501, assigned to the same assignee as the instant invention, is related to a polarizing member that has a reflection type polarizing plate capable of separating natural incident light into reflected light and transmitted light.
- e) US 2002/0131172 is related to a polarizing plate and liquid crystal display device using the same.
- f) USPAT 5,886,799 discloses a pressure-sensitive adhesive layer that is made of polymer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (703) 308-4115. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William L Sikes can be reached on (703) 305-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

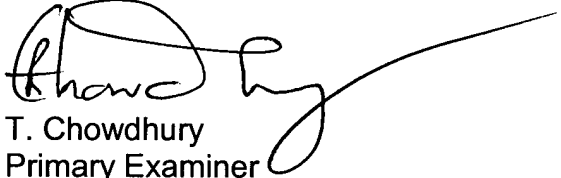
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746-7005 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



T. Chowdhury
Primary Examiner
Technology Center 2800

TRC
June 10, 2003